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**REMARKS**

In response to the above-identified Final Office Action, Applicants seek reconsideration thereof in this response. No claims have been amended, added or cancelled. Accordingly, claims 1-22 are pending.

**Rejections under 35 U.S.C. § 102(b)**

Claims 1, 2, 6-13 and 17-22 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 6,065,115 issued to Sharangpani *et al* (*Sharangpani*). Applicants respectfully traverse the rejection because *Sharangpani* does not disclose each and every element of claims 1, 2, 6-13 and 17-22.

It is axiomatic that to anticipate a claim, the reference must teach each and every limitation of the claim. With regard to claim 1, *Sharangpani* does not disclose "assigning an identification number (ID) to each of a plurality of micro-operations (uops) to identify a branch path to which the uop belongs."

**Identifying**

*Sharangpani* discloses storing a tag that associates an instruction stream with a particular instruction pointer instead of "identifying a branch path to which the uop belongs." This difference is best demonstrated by carefully considering how efficiently an instruction can be associated with a branch path. According to the cited language of claim 1, the branch path of a particular instruction can be found by simply looking at the tag for the instruction. However, in *Sharangpani* additional steps are required to find out which branch path is associated with an instruction. First, the instruction is associated with a particular stream. Second, the stream is associated with an instruction pointer. Third, the instruction pointer is associated with a target instruction stream (See *Sharangpani*, col. 10, ll. 6-20). Therefore, in *Sharangpani*, at least the extra steps of determining which instruction stream is associated with the instruction pointer and associating the instruction pointer with the target instruction are necessary to associate

the individual instructions of the stream with their respective branch path. The extra steps necessary to identify the branch path associated with the instruction highlights the difference between the tag in *Sharangpani* and the ID in the claim.

In contrast, Applicants' identification tag identifies a branch path to which the uop belongs, thereby reducing the number of steps needed to identify the branch path to which the uop belongs. Thus, the fact that the association can be performed in fewer steps than in *Sharangpani* illustrates that the cited claim language is different from the cited passages of *Sharangpani*. Therefore, *Sharangpani* fails to teach each and every limitation of claim 1

Claims 2 and 6-9 depend from independent claim 1, and are patentable for at least the reasons discussed in support of their base claims.

Claims 10 and 19 contain elements similar to the above-cited elements of claim 1 and are patentable for at least the reasons mentioned in regard to claim 1. Claims 11-13, 17, 18 and 20-22 ~~depend directly or indirectly~~ from claims 10 and 19, respectively, and are patentable over *Sharangpani* for at least the reasons identified in support of their base claims.

Accordingly, Applicants respectfully submit that claims 1, 2, 6-13 and 17-22 are not anticipated by *Sharangpani* under 35 U.S.C. § 102(b) and respectfully request reconsideration and withdrawal of the rejection of claims 1, 2, 6-13 and 17-22.

#### Rejections under 35 U.S.C. § 103

Claims 3-5 and 14-16 were rejected under 35 U.S.C. § 103(a) as being obvious over *Sharangpani* in view of U.S. Pat. Pub. No. 2003/0061258 by Rodgers *et al.* (*Rodgers*). Applicants respectfully traverse the rejection because the combination is improperly motivated and does not teach each and every element of claims 3-5 and 14-16.

The rejection fails to provide a statutorily valid suggestion or motivation found in the art to modify *Sharangpani* in view of *Rodgers*. "[There] must be some suggestion

or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." MPEP §2143. On pages 7 and 8, the Final Office Action states that:

It would be desirable to have a system to ensure that all instructions are retired in a correct order to ensure proper processor functionality.

It would have been obvious to one of ordinary skill in the art at the time of invention to have included Rodgers' issue/retire scheme of assigning and using sequence numbers in Sharangpani's processor for the benefit of ensuring proper operation.

"[For] the benefit of ensuring proper operation" is not proper motivation because it incorrectly assumes improper operation necessitating the incorporation of the Rodgers' issue/retirement scheme. However, *Sharangpani* discloses a way to "ensure that all instructions are retired in a correct order to ensure proper processor functionality" without being combined with Rodgers. See *Sharangpani*, col. 6, ll. 5-14 and col. 11, ll. 48-67. Therefore, one of ordinary skill in the art would not be motivated to make the combination as the Examiner suggests because there would be no additional benefit of making the combination.

Rather, the combination seems to be based solely on hindsight after reviewing the Applicant's application. Therefore, the motivation to combine fails to provide a proper suggestion or motivation found in the art to make the combination or modification. Accordingly, Applicants respectfully requests reconsideration and withdrawal of the obviousness rejection of claims 3-5 and 14-16.

Claims 3-5 and 14-16 depend from claims 1 and 10. As discussed above, with regard to claims 1, 10, and 19, *Sharangpani* fails to teach "assigning an identification number (ID) to each of a plurality of micro-operations." Furthermore, *Rodgers* fails to cure this deficiency. Applicants have reviewed the *Rodgers* reference and are unable to find any teaching or suggestion of the cited claim language. If the Examiner maintains this rejection, Applicants respectfully request a specific reference or explanation as to

how *Sharangpani* and *Rodgers* teach or suggest the cited elements of claims 3-5 and 14-16.

For the aforementioned reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 3-5 and 14-16.

CONCLUSION


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Claims 1-22 are currently pending. In view of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. Applicants respectfully request reconsideration of the application and allowance of the pending claims. If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact the undersigned at (310) 207 3800. Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicants hereby request such extension.

Respectfully submitted,  
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Dated: August 11, 2006

  
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CERTIFICATE OF FACSIMILE:

I hereby certify that this correspondence is being transmitted by facsimile on the date shown below to Examiner Dillon J. Cody at the United States Patent and Trademark Office.

 8/11/06  
Susan M. Barrette August 11, 2006